

INDIAN RAILWAYS ROMANCE WITH ENVIRONMENT

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My earliest remembrance of Railways was of my journey with my family on summer trips by train. The attraction as a young kid was to sit at the window-seat and look outside the trees and buildings running backwards. It is always a pleasant experience but for the coal dust falling in the eye from the smoke of the Steam Engine. Those were the days when most of the trains used to be hauled by Steam Engines producing their share of air pollutants by burning coal. Lot of water used to be consumed to produce steam to haul trains. The tracks were laid on wooden sleepers. Signal poles were made of wood and for various other buildings, structures lot of wood used to be consumed. Thus, Railway operations used to consume lot of natural resources. From that point, Railways embarked on a journey to protect the environment, changing all the aspects and modernizing things in a rapid pace in the last 50 years. So let us walk through the Railways Romance with Environment and its protection.

Railways replaced wooden sleepers with concrete sleepers which not only increased the strength and the load bearing capacity of the tracks but also saved lot of forest/wood consumption. All the wooden structures were replaced with iron structures. Today Indian Railways is not using even a single wooden sleeper in its huge network.

The Steam Engine gave way to Diesel Engine and the Steam Locomotives have become antique pieces and were put to exhibition and for occasional heritage runs. Now Diesel Engine has also given way to Electrical Traction. As on date, 70% of the broad-gauge network of Indian Railways is with OHE (Overhead Electrification) and Railways are working on emphasizing 100% electrification of the broad-gauge network by December 2023, thereby not only reducing the pollution from burning fossil fuels but also saving lot of money in foreign exchange to the nation.

The entire development of Railways is for the efficient bulk movement of freight which is six times more efficient than moving by road. Even though Railways was contributing to this aspect right from the beginning, the subsequent improvement helped in improving the efficiency in freight transportation. One of the major milestones brought in Indian Railways is the introduction of rake movement and stopping piecemeal movement of wagons. This helped in faster movement of goods and development of multimodal transportation wherein road and rail started working in better coordination. Furthering the cause of efficient transportation, Dedicated Freight Corridors (DFCs) are under development. As things stand now, we will be soon having operations on two DFCs, i.e., the Western DFC and Eastern DFC. These DFCs will not only move with more load capacity at faster speed but are also being developed as low carbon green transportation network with long-term low carbon roadmap, which will enable to adopt more energy efficient and carbon friendly generations, processes and practices. In this endeavor, in addition to the ongoing projects of Western DFC and Eastern DFC further DFCs such as East-Coast DFC (Kharagpur-Vijayawada), East-West DFC (Bhusawal-Khargapur-Dankuni) and North-

South DFC (Vijayawada-Nagpur-Itarsi) are under survey. It is expected that the DFCs will enable shift of freight traffic from road to rail from present 30% to 45%, thus shifting cargo to non-polluting greener transportation system.



Another major initiative taken by Indian Railways to bring in efficient environment friendly transportation is by adopting and bringing in container transportation on rail. Right from the beginning of container movement in India, Indian Railways recognized importance of container movement of freight. Further initiatives taken by Indian Railways led to the growth of containerization by rail. Container Corporation of India Ltd. (CONCOR) was incorporated in the year 1989 to specially work on furthering the transportation of containers by rail. From the humble beginning of piecemeal container transportation on rail, lot of progress has been made in bringing in high-speed BLC wagons which run at 100 KMPH and movement of block rakes with 90 TEUs per rake. With the recent introduction of double-stack movement from the last 6 to 7 years, this has further increased the number of TEUs per rake from 90 to 180. This will be further enhanced with operation of DFCs where double-stack long haul trains will be introduced which will be carrying 400 TEUs in each train. It is another fine example of the synergy of working between road and rail, wherein the last mile is catered by road and the long distance of containerized cargo transportation is done by rail.

Indian Railways is adopting lot more initiatives to protect the environment such as introduction of bio-toilets, vacuum cleaning process to save water, use of LED lights to save electricity, introduction of new and environment friendly train sets like Vande Bharat, recycling and improved efficient production units such as Rail Wheel Factory, rainwater harvesting at various locations, elimination of railway crossings leading to less stoppages and faster movement.

Finally, I would like to emphasize about one of the latest initiatives taken by Indian Railways and other Railway establishments i.e., adoption of e-Office, e-Tendering, e-Ticketing to cut down on the consumption of paper as Indian Railways has always put its best foot forward to protect the environment.

Romanticizing with the environment and its protection is always an ongoing process with the Indian Railways.